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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/842,100	04/25/2001	Douglas Sojourner	10991096-1	6956

22878 7590 08/14/2003

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EXAMINER

DI GRAZIO, JEANNE A

ART UNIT PAPER NUMBER

2871

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/842,100

Applicant(s)

SOJOURNER ET AL.

Examiner

Jeanne A. Di Grazio

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE 25 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Priority

Applicant does not claim priority.

Application History

This Office Action is in response to the Request for Continued Examination (RCE) transmitted by fax on July 25, 2003 and forwarded to the Examiner on July 31, 2003. Applicant requests continued examination with respect to the Amendment as filed on June 9, 2003.

Accordingly, this Office Action is in response to the Amendment of June 9, 2003.

Claims 1-18 are pending in this application.

Claim Objections

Claim 14 objected to because of the following informalities: Claim 14 is not a complete sentence. An 'and' should follow after "major surfaces" to make the claim one complete sentence. Appropriate correction is required.

Claim 15 objected to because of the following informalities: "filing" should read as "filling." Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 1, 7-9, 12-15, and 18 rejected under 35 U.S.C. 102(e) as being anticipated by Tseng et al. (US 6,562,640 B1).

Per claim 1: Tseng discloses the following, providing a substrate having the plurality of lcnds interconnected to one another (Figure 2, wafer 100, 200 passed chip, 200' failed chip), creating a plurality of holes in the substrate, wherein each of the plurality of holes extends through the substrate from a major surface thereof into a respective one of the lcnds (Figure 7, injection holes 320, ITO glass panel 300, side edge of square frame 310), causing liquid crystal material to flow through said plurality of holes, and to fill spaces within said plurality of lcnds (Figure 7, liquid crystal 330), and sealing said plurality of holes (Col. 4, Lines 3-6).

Per claim 7: The substrate is glass (ITO glass panel 300).

Per claim 8: Said plurality of holes are sealed using a sealant material selected from a group consisting of glue, epoxy, and solder (sealant glue machine at Col. 4, Lines 6-7).

Per claim 9: Testing said plurality of lcnds while they are connected to each other and to a connection for conducting a test signal (Flow chart, Figure 1) and separating said plurality of lcnds from each other after said testing (Col. 2, Lines 47-50).

Per claim 12: Said testing includes causing a voltage difference between the integrated circuit electrodes and the transparent electrode (Testing in Tseng is done on a wafer substrate by probe and it can be implied that a voltage difference is created between respective electrodes so that 'passed' and 'failed' chips can be easily determined by probe.).

Per claim 13: Said testing includes determining whether each of the plurality of lcnds produces a uniform image (Tseng tests for 'passed' and 'failed' chips. Presumably, the passed chips are those that produce a uniform image.).

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Per claim 14: A first substrate of the lcmd assembly (Figure 7, 100), a second substrate of the lcmd assembly (Figure 7, 300), the second substrate having a pair of opposed major surfaces and comprising a hole extending through the second substrate between the major surfaces (injection hole, 320), liquid crystal material that is located between the first substrate and the second substrate of the lcmd assembly (liquid crystal, 330).

Per claim 15: Said hole can be used for filling [sic] the lcmd with liquid crystal material (Figure 7, liquid crystal 330).

Per claim 18: Said lcmd assembly is physically connected to the other lcmd assemblies (Figure 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Tseng et al. (US 6,562,640 B1) in view of Takiar (US 6,177,288 B1).

Per claims 2 and 3: Tseng does not appear to have the step of testing said plurality of lcnds after sealing said plurality of holes, although, Tseng does have the step of separating lcnds after the lcnds are tested (Flow Chart, Figure 1). However, Takiar has a method of making integrated circuit packages in which a panel is coated with a layer of encapsulating material (a sealant) and then singulated and then electrically tested (Cols. 1, Lines 64-67 and 2,

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Lines 1-5) which suggests that the packages are tested after they are sealed. See also Col. 2, Lines 30-60.

The problem to be solved in Takiar, is one of improving the reliability of testing and lowering manufacturing costs (Col. 2, Lines 6-27). If the packages, or lcnds, are sealed and then tested, there is less of a likelihood of contamination such as particles and dust that may result when the packages or lcnds are diced than if the packages or lcnds are not sealed prior to testing.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tseng in view of Takiar for improved reliability of testing and to thus ensure that reliable and functional lcnds are not discarded erroneously.

Claims 4-6, 10-11, and 16-17 rejected under 35 U.S.C. 103(a) as being unpatentable over Tseng et al. (US 6,562,640 B1) in view of Jacobsen et al. (US 6,555,408 B1).

Per claims 4-6, 10-11, and 16-17: Tseng has a microdisplay manufacturing method in which a wafer is used as the base circuit (Col. 2, Lines 47-50). Tseng does not appear to specify a semiconductor substrate that comprises an integrated circuit; however, Jacobsen teaches that reflective displays typically comprise silicon integrated circuits that have reflective pixels (Col. 1, Lines 39-41). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tseng in view of Jacobsen for a typical reflective lcnd.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeanne A. Di Grazio whose telephone number is (703)305-7009.

The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703)746-8741 for regular communications and (703)746-8741 for After Final communications.

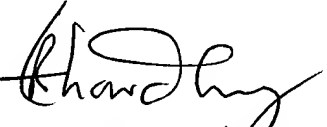
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Jeanne Andrea Di Grazio

Robert Kim, SPE

JDG

August 5, 2003


T. Chandhury
Primary Examiner